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Title: “The future of waste management and reduction shows promise with technological advances that have sparked newer and more efficient methods”

Authors: Elijah Velasquez and Hunter Swavely

The safe, clean, and efficient reduction and management of both radioactive and nonradioactive wastes are essential processes, however, these processes can be time consuming, complicated, and costly. The goal of this poster is to research possible waste solutions that will encourage the use of more environmentally and monetarily efficient methods of waste disposal, and decrease the amount of hazardous waste bound for energy recovery, treatment, and disposal facilities. Technological advances such as smart trash bins provide a more efficient means of disposing solid wastes and encouraging recycling. Using artificial intelligence, these bins are able to categorize and separate different forms of waste and recyclable material. The smart bins also provide a method for ensuring the most efficient pick up times for waste facilities. This is done with the use of trash bin sensors, thus, overtime saving money and reducing CO<sub>2</sub> emissions. Some countries are also finding ways on a larger scale to reduce waste and encourage environmentally friendly practices. Facilities are reducing waste output through waste recycling, and they are using the waste-to-energy techniques to supply cities with the majority of needed energy. The adoption and encouragement of technological advances in waste reduction and energy restoration can lead to a diminished need for hazardous waste treatment plants, and have a significant impact on preserving our resources, protecting the environment, and simultaneously reducing costs over time.